

3600.8304  
March 14, 2007 (1:23pm)

Docket: AM-8304

### Amendments to the Claims

1. (Currently amended) A method of thermally processing a substrate in a reactor comprising a radiant heat source, comprising the steps of:

disposing a substrate to be thermally processed on a front side thereof facing downwardly to form features therein with a back side opposite said front side facing said radiant heat source; and

thermally pyrometrically monitoring said front side of said wafer.

2. (Original) The method of claim 1, wherein said thermally monitoring step includes measuring temperatures at a plurality of radial positions relative to a center of said substrate.

3. (Currently amended) A method of thermally processing a substrate in a reactor comprising a radiant heat source, comprising the steps of:

disposing a substrate to be thermally processed on a front side thereof to form features therein with a back side opposite said front side facing said radiant heat source, wherein said disposing includes supporting said substrate with a peripheral fixture including an annular shelf extending under the substrate around its center but no further inward than an edge exclusion zone of said substrate; and

thermally monitoring said front side of said wafer.

4. (Original) The method of claim 3, wherein said edge exclusion zone has a width of no more than 3mm.

5. (Previously presented) The method of claim 3, wherein said substrate is disposed with said front side facing downwardly.

3600.8304  
March 14, 2007 (1:23pm)

Docket: AM-8304

6. (Previously presented) The method of claim 3, wherein said substrate is disposed with said front side facing upwardly.

7. (Previously presented) The method of claim 1, further comprising reflecting heat emitted from said front side of said substrate back to said front side across a radiation cavity.

8. (Previously presented) A method of thermally processing a substrate in a reactor comprising a radiant heat source in opposition to a reflector extending parallel to a surface of said substrate and facing said surface over substantially all of said substrate, comprising the step of disposing a substrate to be thermally processed on a front side to form features therein with said front side facing downwardly and towards said reflector and a back side of said substrate opposite said front side facing said radiant heat source, whereby said reflector reflects radiant energy produced in said substrate by said radiant heat source and emitted from said front side back to said front side.

9. (Original) The method of claim 8, further comprising thermally monitoring a plurality of positions on said front side.

10 – 11. (Canceled)

12. (Currently amended) A thermal processing apparatus, comprising:  
a radiant heat source for directing radiant energy in a first direction downwardly;  
means including an annular ring for holding a wafer with a back side thereof facing said radiant heating apparatus heat source opposite said first direction, a front side of said substrate opposite said back side being processible in said thermal processing apparatus to form features on said front side; and

a reflector disposed on a downward side of said wafer facing said front side to reflect back to said front side radiation produced by said radiant heat source and emitted from said front

3600.8304  
March 14, 2007 (1:23pm)

Docket: AM-8304

side, wherein said radiant heat source is disposed above said reflector.

13. (Original) The apparatus of claim 12, wherein said holding means overlaps said front side only within an edge exclusion zone of said substrate.

14. (Original) The apparatus of claim 13, wherein said edge exclusion zone extends no further than 3mm from an edge of said substrate.

15. (Previously presented) The apparatus of claim 12, further comprising a detachable holding member capable of holding said substrate from a top side thereof.

16. (Original) The apparatus of claim 12, wherein said radiant heat source is disposed below said reflector.

17 – 18. (Canceled)

19. (Currently amended) The apparatus of claim 12, further comprising a plurality of thermal monitors pyrometers having view ports directed at said front side through apertures in said reflector.

20 – 29. (Canceled)

30. (New) The method of claim 3, wherein the step of thermally monitoring includes pyrometry.

31. (New) The method of claim 3, wherein the shelf is a sloping shelf.

32. (New) The apparatus of claim 12, wherein the ring includes a sloping annular shelf.